

Department of Energy

Pt. 725, App. A

APPENDIX A TO PART 725—CATEGORIES OF RESTRICTED DATA AVAILABLE

C-24 Isotope separation. This category is divided into subcategories A and B.

Subcategory A includes information in summary form concerning the status and potential of the gaseous diffusion and gas centrifuge processes for the separation of uranium isotopes.

Subcategory B includes information on the following:

a. Any aspect of separating one or more isotopes of uranium from a composition containing a mixture of isotopes of that element by the gas centrifuge or gaseous diffusion processes.

b. Design, construction, and operation of any plant, facility or device capable of separating by the gas centrifuge or gaseous diffusion processes one or more isotopes of uranium from a composition containing a mixture of isotopes of that element, including means and methods of transporting materials from one to another device.

C-44 Nuclear Technology. This category includes classified technical information concerning nuclear technology. It may contain information on the following:

a. Materials, including metals, ceramics, organic and inorganic compounds. Included are such technical areas as the technology and fabrication of fuel elements, corrosion studies, cladding techniques and radiation studies.

b. Chemistry, chemical engineering and radiochemistry of all the elements and their compounds. Included are techniques and processes of chemical separations, radioactive waste handling and feed material processing.

c. Reactor physics, engineering and technology including theory, design, criticality studies and operation of reactors, reactor systems and reactor components.

d. Reserved.

e. Lithium isotope separation technology. This subcategory includes classified technical information on the separation of lithium isotopes by using counter-current flows of lithium amalgam and aqueous lithium hydroxide solution in packed columns. Not included is information regarding plant design and operating conditions from which total production rates or design capacity of the lithium isotope separation plant (Calex) in Oak Ridge, Tennessee, can be inferred. In addition to the other requirements of this part, access permits for Restricted Data in this subcategory will be approved, provided the permittee:

1. Demonstrates that it is not a corporation or entity owned, controlled or dominated by an alien, a foreign corporation, or a foreign government, and

2. Agrees to insertion in his access permit of the terms and conditions:

(i) Set forth in paragraphs (a) and (b) of § 725.23 of this part;

(ii) Set forth in paragraph (c) of § 725.23 of this part, amended by deleting the phrase "category C-24, isotope separation," and inserting in lieu thereof the phrase "subcategory C-44e, lithium isotope separation technology";

(iii) Set forth in paragraph (d) of § 725.23 of this part, amended by:

(A) Deleting the phrases "production or enrichment of special nuclear material" and "separation of isotopes" wherever they appear, and inserting in lieu thereof the phrase "separation of isotopes of lithium";

(B) Deleting the phrase "domestic commercial uranium enriching services are provided by," and inserting in lieu thereof the phrase "domestic lithium isotope separation capacity becomes available to."

This category does not include information which reveals or from which can be calculated actual or planned (as distinguished from design) capacities, production rates and unit costs for the plutonium production program.

C-65 Plutonium Production. This category includes information on reactor, fuel element and separations technology which reveals or from which can be calculated actual or planned (as distinguished from design) capacities, production rates and unit costs for the Hanford and Savannah River production facilities.

Technology which does not reveal or enable calculation of production rates and unit costs of Hanford or Savannah River production facilities is categorized in C-44 Nuclear Technology.

C-90 Nuclear Reactors for Ram-Jet Propulsion. This category includes information on:

a. Programs pertaining to the development of nuclear reactors for application to ram-jet propulsion systems including theory and/or design, test philosophy procedures and/or results.

b. Fabrication technology and evaluation of performance or characteristics of materials or components for such reactors.

c. Controls, control systems and instrumentation relating to the design or technology of such reactors.

d. Data pertaining to heat transfer, propellant kinetics or corrosion and erosion of materials under conditions of high temperature, high gas flows or other environmental conditions characteristic of ram-jet propulsion systems.

This category does not include information on:

a. Design details of weapons systems or nuclear warheads.

b. Military operational techniques or characteristics.

c. General aspects of nuclear ram-jet missiles, such as payload, aerodynamic characteristics, guidance systems, physical size, gross weight, thrust and information of this kind which is associated with utilization of a nuclear ram-jet propulsion system.

C-91 Nuclear Reactors for Rocket Propulsion. This category includes information on:

a. Programs pertaining to nuclear reactors for rocket propulsion, i.e., missile propulsion, theory and design, test philosophy procedures and/or results.

b. Design, fabrication technology and evaluation of performance or characteristics of material, components, or subsystems or nuclear rocket reactors.

c. Controls, control systems and instrumentation relating to the design or technology of rocket reactor systems.

d. Data pertaining to heat transfer, propellant kinetics or corrosion and erosion of rocket reactor system materials under conditions of high temperature, high gas flows, or other environmental conditions characteristic of rocket reactors.

This category does not include information on:

a. Design details of weapons systems or nuclear warheads.

b. Military operational techniques or characteristics.

c. General aspects of payload and aerodynamic characteristics.

d. Design details and development, information of components and subsystems of the nuclear rocket engine other than that associated with the reactor system.

C-92 Systems for Nuclear Auxiliary Power (SNAP). This category includes information on:

a. Isotopic SNAP Program, including theory, design, research and development, fabrication, test procedures and results for the device, including power conversion device and the fuels used.

b. Reactor SNAP Program, including theory, design, research and development, fabrication, test procedures and results for the reactor, including the directly associated power conversion device when developed by DOE.

This category does not include that technical and scientific data developed under the SNAP Advanced Concept Program which should be reported in C-93.

C-93 Advanced Concepts for Future Application.

C-93a Reactor Experiments. This category includes classified technical information developed in the pursuit of work on new or advanced concepts of reactors or components which DOE considers essential to future growth or for general application to future generations of reactors. Classified information developed in the pursuit of work on the lithium cooled reactor experiment is an

example of the type of information to be reported in this category, i.e., information resulting from an experimental reactor project or component development which may have many future applications but which is not currently being pursued to meet the specific needs of an approved requirement for which other information categories have been provided. For example, classified technical information developed in the pursuit of work on Naval, Ram-Jet or Rocket nuclear reactors would not be reported here but under their respective specific categories. This category will include classified technical information on the following:

a. Theory, design, and performance, either estimated or actual.

b. Design details, composition and performance characteristics of major components (e.g., fuel media, reflectors, moderators, heat exchangers, pressure shells or containment devices, control rods, conversion devices, instrumentation and shielding).

c. Material (metals, ceramics and compounds) development, alloying, cladding, corrosion, erosion, radiation studies and fabrication techniques.

d. Chemistry, including chemical engineering, processes and techniques. Reactor physics, engineering and criticality studies.

C-93b Conversion Devices. This category includes classified technical information developed in the pursuit of studies, designs, research and development, fabrication and operation of any energy conversion device to be used with nuclear energy sources which is not being applied to a specific system development project.

C-94 Military Compact Reactor (MCR). This category includes classified technical information on the actual or planned Military Compact Reactor and its components developed in the pursuit of studies, designs, research and development, fabrication, and operation of the reactor system or its components.

Examples of the areas of information included are:

a. Reactor core physics.

b. Fuel elements and fuel element components.

c. Moderator and reflector details.

d. Data on primary coolant system.

e. Radiation shield.

f. Controls and instrumentation.

This category does not include information on military operational characteristics or techniques.

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